		G	S DEPARTMENT OF THE EOLOGICAL SURVEY	HE INTERIOR	:		BULLETIN 1222-B PLATE 2
SYSTEM	SERIES		FORMATION	LITHOLOGY	THICKNESS (FEET)	DESCRIPTION OF ROCKS	
QUATERNARY	Recent and					Terrace gravel, landslide deposits, colluvium, and alluvium: high-level gravel; landslide deposits; unstratified slope wash, talus; clay, sand, and gravel deposited along principal streams.  Glacial moraine: deposits of large boulders, chiefly granite and poorly sorted materials left by ice in lateral and terminal moraines and glacial outwash in Lost Creek Valley.	
	Miocene(?)	nd Pilocen		\$0.000000 \$0.0000000	600-800 0-400±	Gravel: poorly indurated thick-bedded gray to buff cobble- and pebble- channel conglomerate intercalated with coarse-grained sandstone, tuffaceous siltstone, and some thin carbonaceous beds; locally	EXPLANATION
		B B		0 0000		\times \includes surficial glacial outwash material. \times \time	0.00
TERTIARY			Lowland Creek Volcanics		0-600±	calated with thick beds of gray tuffaceous siltstone and thin carbonaceous lentils; weathers in unconsolidated rubble.  Volcanic breccia and red-bed member: indurated massive- to thick-	Conglomerate
	9			# # #	·	bedded gray to reddish-brown quartz latite breccia and agglomerate interstratified with quartz latite flows, thick-bedded buff conglomerate and sandstone, some tuff, and thin coaly shale beds; intertongues toward the north with buff and grayish-orange conglomerate beds containing cobbles of limestone, Precambrian rocks and some volcanic rocks intercalated with reddish-brown coarse-grained sandstone and gray tuffaceous siltstone beds.	Sandstone and crossbedded sandstone
	Eocene				0-3000±	Ash-flow tuff member: massive light-gray quartz latite ash flows and tuff intercalated with minor lenticular beds of greenish-gray conglomerate, gray lapilli tuff, and welded tuff; locally includes several coarse-grained arkose beds near the base.	Quartzite
					400±	Basal member: massive- to thick-bedded grayish-brown cross-laminated arkose, lenticular conglomerate beds containing abundant pebbles of volcanic rock, and gray to buff tuffaceous siltstone and tuff beds; grades near the top into thick-bedded light-gray arkose, tuffaceous siltstone, and gray-green limestone; grades toward base into some dark-gray shale and limestone beds; includes locally a basal breccia conglomerate where deposits accumulated in areas of low relief.	Shale  Shale  Calcareous shale
CRETACEOUS	Lloper		Colorado Shale		1500±	Thick-bedded dark-gray coarse-grained sandstone and shale grading at top to siltstone and shale; lower part mainly dark-gray to grayish-brown calcareous shale interbedded with siltstone and thin-bedded limestone, and overlain by massive dark-gray to gray-brown quartz-itic chert pebble conglomerate beds; base is not exposed in area and upper part is truncated by Tertiary sediments.	Coaly shale
	pue semo	LOWGI	Kootenai Formation		1500±	Upper part chiefly red and grayish-green shale and limestone beds containing abundant gastropods and grading at the top to black calcareous shale and some thin gray to buff sandstone beds; lower part consists of a basal cliff-forming reddish-brown to grayish-green quartzite cobble conglomerate overlain by a thick sequence of reddish-brown shale and thick-bedded limestone.  Thin- to thick-bedded grayish-green to dark-gray sandstone containing minor chert pebble conglomerate beds grading near top into thick-	Limestone  Limestone, crinkly bedded
JURASSIC	Z ģ		Sedimentary rocks	5.0.5.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	400±	bedded olive-gray calcareous shale and locally some nodular lime- stone beds; lower part chiefly black calcareous and fossiliferous shale and limestone.	Limestone, cherty
		and a	Sedimentary rocks  Phosphoria Formation Quadrant Formation	.00000000000	150-200 150-200	Cliff-forming massive-to thick-bedded gray to grayish-orange quartz- itic sandstone separated in several ledges by thin-bedded soft calcareous shale; lower part chiefly interbedded cherty limestone, black calcareous shale, and a thin dark-gray oolitic phosphate bed.	
=   '	PENNSYLVANIAN	addo	Amsden Formation  Madison Limestone			Cliff-forming massive light-gray quartzitic sandstone; locally much fractured and cut by many veinlets of calcium carbonate.  Slope-forming soft reddish-brown shale interbedded with thin grayish-red fossiliferous limestone beds and medium- to thick-bedded sandstone.  Cliff-forming massive dark-gray fossiliferous limestone containing	Dolomite  Ash flow and tuff
CARBON	T IICOLOGIM	Lower at	Madison Elinestene			abundant thin chert layers; lower part thinner bedded and contains some intercalated black shale beds; where metamorphosed, limestone altered to marble.	Latite flows
DEVONIAN		Upper	Jefferson Dolomite		1000±	Cliff-forming thick-bedded light-gray to buff dolomite and some lime- stone; commonly fine-grained to sugary texture; where meta- morphosed, beds have light- to dark-gray cast.	Volcanic breccia
10			Maywood Formation		250±	Thin-bedded reddish- and light-gray dolomitic limestone intercalated with gray and olive-green calcareous shale; lower part chiefly thick-bedded calcareous sandstone.  Thin-bedded light- to blue-gray limestone containing closely spaced	Volcanic breccia
RIAN			Red Lion Formation		280± 1000±	wavy siliceous laminae; lower part mainly dark-gray to black shale and limestone.  Upper part chiefly cliff-forming thick-bedded light-gray dolomite that overlies a thin middle sequence of dark-brown calcareous shale and	and tuff
CAMBRIAN		Ф			7 7	nodular limestone; lower part thick-bedded light-gray dolomite.  Light-gray, brown, and greenish-gray calcareous shale and intercalated limestone beds grading downward into limestone containing thin	Schist and marble
		Middle	Flathead Quartzite		20-200±	siliceous laminae; lower part mainly dark-grayish-green shale.  Cliff-forming massive- to thick-bedded light-gray to white vitreous quartzite; locally tinted rose owing to impurities.	Rock, phosphate
PRECAMBRIAN		Belt	Spokane Formation			Medium- to thick-bedded reddish-brown to grayish-orange cross-laminated ripple-marked sandstone and siltstone; where metamorphosed, altered to dark-gray impure quartzite and dark-greenish-gray to brownish-black cordierite schist.	

Modified after Emmons and Calkins (1913)

Thin- to thick-bedded greenish- to dark-gray calcareous shale inter-

calated with thin- to medium-bedded light-greenish-gray banded impure limestone; where metamorphosed, altered to cliff-forming siliceous limestone and dark-greenish-gray to brownish-black scapolite and diopside-bearing schist; locally limestone beds altered to marble.

4500±

Newland Formation